**Homework 1**

**Due: February 10th**

1. In malt a malt analysis sheet describe what the following metrics are:
   1. S/T (Kolbach Index)
   2. DP
2. For DP, what is the minimum value that a grain must have to “self convert”?
3. As your prepare to finish up after a long day of brewing a new recipe you realize that you forgot to write down how many pounds of grain you used. The size of the batch you brewed was 3,750 liters and you took a specific gravity measurement of 1.050 when the unfermented wort was 40 degrees Fahrenheit. You know that your brew house equipment has an efficiency of 80% and you know the proportions of the grains you used:
   * 1. 50% - Pilsen Malt
     2. 30% - Munich Malt 10L
     3. 20% - Aromatic Malt

Using the malt analysis sheet from the course website for any values you may need, calculate:

1. Amount of lbs of each grain you used
2. You realized you are wasting a lot of your grain, how could brew house efficiency be increased?

Show all work. The density of water at 60 F is 8.338 lbs/gallon.